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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/723,437	11/26/2003	Akira Miura	1344.1129	6253

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EXAMINER

SEDIGHIAN, REZA

ART UNIT PAPER NUMBER

2613

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/723,437	Applicant(s) MIURA ET AL.	
	Examiner M. R. Sedighian	Art Unit 2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 5-11 is/are rejected.
- 7) ☒ Claim(s) 3 and 4 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 2613

1. This communication is responsive to applicant's 10/31/07 amendments and remarks. The amendments have been entered. Claims 1-11 are now pending.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-2, 5, and 7-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Bergano (US Patent No: 6,459,515 B1).

Regarding claims 1, 9, and 11, Bergano teaches a wavelength allocation method (col. 2, lines 10-20) of allocating signal lights on wavelength grids where previously determined wavelength spacing in the wavelength grids is a base unit (col. 2, lines 15-19, col. 3, lines 61-65), the allocated signal lights being used in wavelength division multiplexing optical transmission (300, fig. 3) in which wavelength division multiplexed signal light obtained by multiplexing (307, fig. 3) signal lights of different wavelengths is transmitted over an optical transmission path (311, fig. 3), the method comprising: setting numbers representing how many signal lights to be allocated consecutively (col. 3, lines 61-65, the channels are sequentially numbered from lowest to highest wavelength) in groups of consecutively allocated wavelengths on said wavelength grids and consecutively allocating the signal lights on said wavelength grids in groups (Band #1, Band #2, Band #8, fig. 2) in accordance with the set numbers (col. 4, lines 1-12), wherein at least two groups (Band #1, Band #2, fig. 2) have different numbers of signal lights (col. 3, lines 34-36, note that each of the wavebands may incorporate different number of

Art Unit: 2613

channels), but not allocating a signal light on at least one wavelength of said wavelength grid adjacent to each group of consecutively allocated wavelengths on the wavelength grids (col. 3, lines 25-30). As to claim 11, Bergano discloses a wavelength allocation method (col. 2, lines 10-20) usable for transmitting a multiplexed optical signal (col. 1, lines 5-10), comprising: allocating consecutive wavelengths of an equally spaced wavelength grid to groups of signals (col. 2, lines 10-20 and fig. 2), predetermined numbers representing how many consecutive wavelengths of the equally spaced wavelength grid are allocated to signals in each group (col. 3, lines 23-26 and 20₁, 20₂, 20₃, fig. 2) each group including at least three signals and leaving at least one wavelength of the equally spaced wavelength grid unused between adjacent groups (col. 3, lines 24-30), and at least two groups having different predetermined numbers of signals (col. 3, lines 30-36, note that each of the wavebands may incorporate different number of channels), wherein all the groups of signals are multiplexed to be transmitted (col. 3, lines 37-41 and 307, fig. 3).

Regarding claim 2, Bergano further discloses the numbers representing how many signal lights to be allocated consecutively in groups are set to different values (col. 3, lines 30-36, the channels may be divided into any desired number of wavebands that may or may not each incorporate the same number of channels, therefore, the number of channels in each group can be different) corresponding to wavelength bands so that a four-wave mixing crosstalk amount calculated for each wavelength corresponding to the wavelength grids is equal to or less than a previously set tolerance value (col. 5, lines 40-43, 52-58).

Regarding claim 5, Bergano teaches when a plurality of upper level wavelength groups for collectively processing the signal lights of a plurality of wavelengths in an optical node on

Art Unit: 2613

said optical transmission path, is provided for said wavelength grids, for each signal band on which the signal lights are allocated in each of said upper level wavelength groups, the signal lights are allocated consecutively on the wavelength grids within said signal bands, in accordance with the numbers determined based on the wavelength dependence of said generation amount of four-wave mixed light, but the signal light is not allocated on at least one wavelength grid adjacent to the wavelength grids on which said group of signal lights are allocated consecutively (col. 3, lines 23-35, 53-67, col. 5, lines 50-61).

Regarding claim 7, Bergano teaches the wavelength grid is equally spaced (col. 3, lines 64-65).

Regarding claim 8, Bergano teaches the equal spacing is 25 GHz (col. 3, lines 64-65).

Regarding claim 10, Bergano teaches the WDM signal light is transmitted via an optical transmission path (311, fig. 3).

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bergano (US Patent No: 6,459,515 B1) in view Grasso et al. (US Patent No: 5,943,151).

Regarding claim 6, Bergano differs from the claimed invention in that Bergano does not specifically disclose an optical node such an optical add/drop multiplexing node and an optical compensation node in the transmission system. However, it is well known to add add/drop

Art Unit: 2613

multiplexer and compensation units along the transmission path of an optical network to selectively add and drop signals and to further compensate for distortion. For example, Grasso teaches an optical transmission system (90, 55, 80, fig. 5) by incorporating an optical add/drop multiplexer (58, fig. 5) and compensation unit (125, fig. 5). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to incorporate add/drop modules and a compensation unit such as the ones of Grasso in the transmission system of Bergano in order to selectively add and drop optical signals and to further compensate for dispersion of the transmission path to further increase the transmission capacity and the transmission distance.

6. Claims 3-4 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. Applicant's arguments with respect to claims 1, 9, and 11 have been considered but are moot in view of the new ground(s) of rejection.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. R. Sedighian whose telephone number is (571) 272-3034. The examiner can normally be reached on 9 to 5:30.

Art Unit: 2613

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



M. R. SEDIGHIAN
PRIMARY EXAMINER